

IN THE CLAIMS

1. (Currently amended) A method of rewriting a query during a database query processing operation, comprising the steps of:

processing the query having one or more target attributes in accordance with at least a portion of a data set producing query results;

analyzing the query results with respect to the one or more target attributes and one or more auxiliary attributes from the query results to determine a relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes, wherein the one or more auxiliary attributes were not included in the query; and

appending the query with at least one new predicate corresponding to at least one of the one or more auxiliary attributes having a high relative selectivity to form a rewritten query.

2. (Original) The method of claim 1, wherein the at least a portion of the data set comprises sampled records from the data set.

3. (Original) The method of claim 2, further comprising the step of sampling data records from the data set.

4. (Previously presented) The method of claim 3, wherein the step of sampling data records comprises the step of sampling every Nth record from the data set, wherein N is a positive integer.

5. (Canceled)

6. (Canceled)

7. (Previously presented) The method of claim 1, wherein the step of analyzing the one or more target attributes and one or more auxiliary attributes comprises the steps of:

extracting statistics for each of the one or more target attributes and the one or more auxiliary

attributes from the query results;

extracting statistics for each of the one or more target attributes and the one or more auxiliary attributes from the at least a portion of the data set;  
and

evaluating the relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes in accordance with the extracted statistics.

8. (Previously presented) The method of claim 7, wherein the step of evaluating the relative selectivity comprises the steps of:

comparing a range of statistics from the query results to a range of statistics from the at least a portion of the data set for each of the one or more target attributes and the one or more auxiliary attributes; and

determining whether each of the one or more target attributes and the one or more auxiliary attributes is a selective attribute by comparing a ratio of the ranges to a predetermined value.

9. (Previously presented) The method of claim 1, wherein the step of appending the query with at least one new predicate comprises the steps of:

evaluating relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes;

selecting at least one auxiliary data attribute with a high relative selectivity;

forming at least one new predicate; and

appending the query with the at least one new predicate.

10. (Original) The method of claim 1, further comprising the step of performing a query processing operation on a data set with a rewritten query.

11. (Currently amended) Apparatus for rewriting a query during a database query processing operation, comprising:

a memory; and

at least one processor coupled to the memory and operative to: (i) process the query having one or more data attributes in accordance with at least a portion of a data set producing query results; (ii) analyze the query results with respect to the one or more target attributes and one or more auxiliary attributes from the query results to determine a relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes, wherein the one or more auxiliary attributes were not included in the query; and (iii) append the query with at least one new predicate corresponding to at least one of the one or more auxiliary attributes having a high relative selectivity to form a rewritten query.

12. (Original) The apparatus of claim 11, wherein the at least a portion of the data set comprises sampled records from the data set.

13. (Original) The apparatus of claim 12, further comprising the operation of sampling data records from the data set.

14. (Previously presented) The apparatus of claim 13, wherein the operation of sampling data records comprises the step of sampling every Nth record from the data set, wherein N is a positive integer.

15. (Canceled)

16. (Canceled)

17. (Previously presented) The apparatus of claim 11, wherein the operation of analyzing the one or more target attributes and one or more auxiliary attributes comprises:

extracting statistics for each of the one or more target attributes and the one or more auxiliary attributes from the query results;

extracting statistics for each of the one or more target attributes and the one or more auxiliary attributes from the at least a portion of the data set; and

evaluating a the relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes in accordance with the extracted statistics.

18. (Previously presented) The apparatus of claim 17, wherein the operation of evaluating a the relative selectivity comprises:

comparing a range of statistics for each of the one or more target attributes and the one or more auxiliary attributes from the query results to a range of statistics to a corresponding attribute from the at least a portion of the data set; and

determining whether each of the one or more target attributes and the one or more auxiliary attributes is a selective attribute by comparing a ratio of the ranges to a predetermined value.

19. (Previously presented) The apparatus of claim 11, wherein the operation of appending the query with at least one new predicate comprises the steps of:

evaluating relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes;

selecting at least one auxiliary data attribute with a high relative selectivity;

forming at least one new predicate; and

appending the query with the at least one new predicate.

20. (Original) The apparatus of claim 11, wherein the at least one processor is further operative to perform a query processing operation on a data set with a rewritten query.

21. (Currently amended) An article of manufacture for rewriting a query during a database query processing operation; comprising a machine readable medium containing one or more programs which when executed implement the steps of:

processing the query having one or more target attributes in accordance with at least a portion

of a data set producing query results;

analyzing the query results with respect to the one or more target attributes and one or more auxiliary attributes from the query results to determine a relative selectivity for each of the one or more target attributes and the one or more auxiliary attributes, wherein the one or more auxiliary attributes were not included in the query; and

appending the query with at least one new predicate corresponding to at least one of the one or more auxiliary attributes having a high relative selectivity to form a rewritten query.